

REMARKS/ARGUMENTS

Claim 13 has been amended by reciting that the Mg source is a Mg alloy with a melting point of 650°C or higher. Claim 15, which provides support for this amendment, has been canceled. New Claim 16 has been added and is directed to a method for manufacturing a hydrogen absorbing alloy according to Claim 13. Support for Claim 16 is found on page 8 lines 15-18. Thus, no new matter has been added.

Rejections under 35 U.S.C. §102(b)

Claims 13-15 have been rejected under 35 U.S.C. §102(b) as being anticipated by JP 06-228611 to Takeshita et al. Additionally, Claim 13 has been rejected under 35 U.S.C. §102(b) as being anticipated by JP 60-250557 to Yanagihara et al. To establish an anticipation, a prior art reference must disclose the invention as set forth in the claim. Specifically, a claim is anticipated only if each and every element as set forth in the claim is found in a single prior art reference. Moreover, the identical invention must be shown in as complete detail as is contained in the claim. Applicant respectfully submits that both Takeshita et al and Yanagihara et al. fail to teach each and every element of the present invention as currently claimed. Specifically, for reasons discussed below, neither reference teaches a method for manufacturing a hydrogen adsorbing alloy having a CaCu_5 type crystal structure in its principle phase comprising the step of adding a Mg alloy with a melting point of 650°C or higher.

A. The Claimed Invention

As currently claimed, Claim 13 recites a method for manufacturing a hydrogen adsorbing alloy having a CaCu_5 type crystal structure in its principle phase comprising the steps of forming a melt of elemental components selected from a hydrogen absorbing alloy and adding a Mg source, wherein the Mg source material is a Mg alloy with a melting point of 650°C or higher, to the melt in an amount of 0.1 to 1.0% by weight based on the entire weight of the hydrogen absorbing alloy.

B. The Cited References

Applicant respectfully submits that Takeshita et al. fail to teach each and every element of the currently claimed invention. Specifically, Takeshita et al. fail to teach adding a Mg alloy with a melting point of 650°C or higher to the melt in an amount of 0.1 to 1.0% by weight based on the entire weight of the hydrogen absorbing alloy. The Takeshita et al. reference teaches methods of manufacturing a hydrogen absorbing alloy including pores constituting between 5-40 vol% of the hydrogen storing metal alloy to increase the surface area thereof. According to the teachings of Takeshita et al., increasing the surface area of the hydrogen storing alloy results in increased capacity and discharge properties. See paragraph [12]. Accordingly, every method of manufacture discussed in Takeshita et al. describes the production of a porous hydrogen absorbing powder. To achieve the necessary pores, Takeshita et al. teaches that a volatile element such as Mg may be mixed with other materials prior to forming a melt. The melt is processed in a manner such that the volatile elemental Mg is vaporized; thus producing the necessary pores. Unlike the methods discussed in Takeshita et al., the methods of the currently claimed invention include adding a Mg alloy as the Mg source to avoid vaporization of Mg from the alloy. Consequently, Takeshita et al. fail to anticipate independent Claim 13 or any claims dependent thereof.

Applicant also respectfully submits that Yanagihara et al. do not teach each and every element of the present invention. Similar to Takeshita et al., Yanagihara et al. fail to teach adding a Mg alloy with a melting point of 650°C or higher to the melt in an amount of 0.1 to 1.0% by weight based on the entire weight of the hydrogen absorbing alloy. In general, Yanagihara et al. is directed to providing a sealed alkaline battery having a lowered increase of internal pressure due to overcharging. Additionally, Yanagihara et al. teach a negative electrode of a hydrogen storage alloy that may include elemental Mg. However, Yanagihara et al. fail to disclose a method wherein a Mg alloy with a melting point of 650°C or higher is added to a melt in an amount of 0.1 to 1.0% by weight based on the entire weight of the hydrogen absorbing alloy. Consequently, Yanagihara et al. fail to anticipate independent Claim 13 or any claims dependent thereof.

Rejections under 35 U.S.C. §103(a)

Claims 13-15 have been rejected under 35 U.S.C. §103(a) as being unpatentable over JP 60-250557 to Yanagihara et al. As currently claimed, independent Claim 13 recites a method for manufacturing a hydrogen absorbing alloy having a CaCu_5 type crystal structure in its principal phase comprising adding a Mg alloy with a melting point of 650°C or higher to the melt in an amount of 0.1 to 1.0% by weight based on the entire weight of the hydrogen absorbing alloy.

To establish a *prima facie* case of obviousness the reference must teach or suggest each and every claim limitations. It is respectfully submitted that the reference cited fails to teach or suggest every element of the currently claimed invention. Specifically, Yanagihara et al. fails to teach or suggest adding a Mg alloy with a melting point of 650°C or higher to the melt in an amount of 0.1 to 1.0% by weight based on the entire weight of the hydrogen absorbing alloy. As discussed above, Yanagihara et al. entirely fail to provide any teaching remotely related to using a Mg alloy as a Mg source to avoid vaporization of Mg. Accordingly, Examiner has failed to establish a *prima facie* case of obviousness because the reference cited does not teach or suggest each and every claimed limitation. Since the cited reference fails to teach or suggest each and every element of the currently claimed invention, the rejection of Claim 13 and all Claims dependent thereof have been overcome

For these and the other reasons stated above, it is respectfully submitted that the rejections under 35 U.S.C. §102(b) and §103 (a) have been overcome and that all Claims are patentable over the cited references.

Conclusion

In view of the amendments and remarks above, Applicant submits that the pending Claims are now in condition for allowance. Applicant respectfully requests that the claims be allowed to issue. If the Examiner wishes to discuss the application or the comments herein, the Examiner is urged to contact the undersigned by telephone.

Appl. No.:
Amdt. dated
Reply to Office Action of

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "John E. Johnson, III". The signature is fluid and cursive, with a horizontal line extending from the end.

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